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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/643,598	08/18/2003	Klaus Wissing	FA1090USNA	5074

23906 7590 11/21/2005

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EXAMINER

TSOY, ELENA

ART UNIT PAPER NUMBER

1762

DATE MAILED: 11/21/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/643,598

Applicant(s)

WISSING ET AL.

Examiner

Elena Tsoy

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 October 2005.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 and 9 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-6 and 9 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Response to Amendment

Amendment filed on 10/21/2005 has been entered. Claims 7-8 have been cancelled. Claims 1-6, and 9 are pending in the application.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-6, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mizutani et al (US 5,780,530) in view of Kim (US 4,983,247), further in view of Chu et al (US 6750309).

Mizutani et al disclose a process for coating various substrates used in cars, building roofs and walls (See column 14, lines 47-51) such as a fiber-reinforced plastics (FRP), metal sheets, artificial marble and slate (See column 14, line 38), which comprises the steps of applying a coating composition directly to the substrate (as a primer) or over a primer (See column 14, lines 26-27) using two coats/two bake method (i.e. curing the primer by baking; applying the coating composition and curing the applied coating by baking) at 140⁰C to 240⁰C (See column 14, lines 28-31). Mizutani et al teach that depending upon intended application, the coating composition may contain (electrically conductive) carbon black, iron oxide, metal powders such as aluminum powder (See column 13, lines 60-65).

Mizutani et al fail to teach that the substrate is a wing, bonnet, boot lid, door or mirror housing (Claim 1).

Kim teaches that FRPs such as glass (See column 3, lines 28) reinforced polycarbonate (See column 3, line 33) can be advantageously used for making car doors (See column 1, lines 37-41).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a method of Mizutani et al for coating any substrates including car doors made of FRP such as glass reinforced polycarbonate since Mizutani et al teach that their method is useful for coating FPR in car fields, and Kim teaches that FRPs such as glass reinforced polycarbonate can be advantageously used for making car doors.

Mizutani et al in view of Kim fail to teach that the primer is a dual cure coating composition comprising a polyurethane binder having *moisture* curable alkoxy silane groups and photocurable C=C double bonds wherein equivalent weight of C=C double bond in the polyurethane binder is within range of 200 to 2000 and a content of silicon bound in alkoxy silane groups is within 1 to 10 wt %; and the primer is cured by UV-radiation (Claim 1).

Chu et al teach that a dual cure coating composition comprising a polyurethane (See column 1, line 63) binder of Formula I having *moisture* curable alkoxy silane groups and photocurable acrylated end-caps to a substrate (See column 2, lines 3-6) is particularly useful as adhesive coating in the electronic, *automotive*, industrial and consumer fields (See column 2, lines 6-11). The coating has excellent adhesive properties to glass and plastics such as polycarbonate (See column 17, lines 63-65) after curing under UV-radiation (See column 17, lines 50-51). Clearly, equivalent weight of C=C double bond in the polyurethane binder of Formula I would be within claimed range of 200 to 2000 and a content of silicon bound in alkoxy silane groups is also within claimed range of 1 to 10 wt %.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a dual cure coating composition of Chu et al as primer in Mizutani et al in view of Kim and have cured the primer by UV-radiation with the expectation of providing the desired strong adhesion to the FRP substrate since Chu et al teach that a dual cure coating composition comprising a polyurethane binder of Formula I having moisture curable alkoxysilane groups and photocurable acrylated end-caps provides after UV-curing excellent adhesive properties to glass and plastics such as polycarbonate in automotive fields.

3. Claims 1-3, 6, 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okada et al (US 20030109595) in view of Persson et al (US 6,358,626), further in view of Gaglani (US 5,312,943).

Okada et al disclose a process of coating an automobile body (See P2), the method comprising applying a photocurable primer composition comprising unsaturated acrylated polyurethane (See P8), curing the primer by UV-radiation (See P62) and applying a top coat onto the cured primer and thermally curing the top-coat (See P64).

Okada et al fail to teach that the substrate is automotive wing, bonnet, boot lid, door or mirror housing made of fiber-reinforced plastic (FRP) (Claim 1).

Persson et al teach that within the field of *conventional* exterior autobody parts for motor vehicles, for example boot lids, autobody parts of body panel sheets or, for example, of glass-fibre reinforced thermosetting plastic are previously known (See column 1, lines 43-46).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a method of Okada et al for coating boot lids, or other autobody parts of glass-fibre reinforced thermosetting plastic since Okada et al teach that the method may be used for

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automobile body, i.e. any autobody part, and Persson et al teach that conventional exterior autobody parts include boot lids made of glass-fibre reinforced plastic.

Okada et al in view of Persson et al fail to teach that a dual cure coating composition comprising a polyurethane binder having *moisture* curable alkoxy silane groups and photocurable C=C double bonds wherein equivalent weight of C=C double bond in the polyurethane binder is within range of 200 to 2000 and a content of silicon bound in alkoxy silane groups is within 1 to 10 wt % is used as the photo-curable primer (Claim 1).

Gaglani teaches that a resin coating composition comprising a polyurethane binder of Formula I having both radiation curable olefinic double bonds and condensation curable trialkoxysilane groups (See column 3, lines 12-25) after curing UV radiation and by exposure to moisture (See column 9, lines 19-23) under conditions of ambient temperature and humidity (See column 4, lines 17-26) provides a *repairable* coating having excellent adherence to *plastics* and *glass* (See column 13, lines 46-48). The resin has C=C equivalent weight of the total resin solids content of 579 and Si content of 7.2 wt % (See column 10, lines 49-63, Formula (Ia) ($C_{41}N_4Si_3O_{18}H_{98}$) having M.W. of 1158). Gaglani teaches that the resin composition may be used *primarily* over electronic circuit boards (See column 4, lines 35-37), e.g. automobile printed circuit boards (See column 1, lines 10-12). However, the resin composition may also be used as coatings on *various substrates* including, but not limited to, glass, ceramic, concrete, metal, plastic, brick, paper, cardboard, wood, resilient flooring, e.g., vinyl and vinyl-asbestos tile and vinyl sheet goods, and the like (See column 4, lines 43-48) and provides excellent adherence to *plastics* and *glass* (See column 13, lines 46-48).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have used a resin coating composition of Gaglani as a primer in Okada et al in view of

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Persson et al for coating conventional exterior autobody parts for motor vehicles such as boot lids of glass reinforced plastic with the expectation of providing the desired excellent adherence of the primer to the glass reinforced plastic since Gaglani teaches that the resin composition provides excellent adherence to plastics and glass.

4. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okada et al in view of Persson et al, further in view of Gaglani, and further in view of Bergstrom et al (US 6,384,125).

Okada et al in view of Persson et al in view of Gaglani are applied for the same reasons as above. Okada et al in view of Persson et al in view of Gaglani fail to teach that the binder system further comprises hydroxyl groups.

Bergstrom et al teach that hydroxyl groups are functionally equivalent to alkoxy groups for providing moisture curing of coating film at normal or slightly elevated temperatures with or without the addition of a crosslinking agent and a condensation catalyst (See column 9, lines 49-55).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have substituted some alkoxy groups with hydroxyl groups in Okada et al in view of Persson et al in view of Gaglani with the expectation of providing the desired moisture curing of coating film at normal temperatures since Bergstrom et al teach that hydroxyl groups are functionally equivalent to alkoxy groups for providing moisture curing of coating film at normal or slightly elevated temperatures with or without the addition of a crosslinking agent and a condensation catalyst.

5. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okada et al in view of Persson et al, further in view of Gaglani, and further in view of Mizutani et al.

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Okada et al in view of Persson et al in view of Gaglani are applied for the same reasons as above. Okada et al in view of Persson et al in view of Gaglani fail to teach that the primer contains constituents which provide electrical conductivity.

Mizutani et al teach that depending upon intended application, a primer coating composition may contain (electrically conductive) carbon black, iron oxide, metal powders such as aluminum powder (See column 13, lines 60-65).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have added carbon black, iron oxide, metal powders such as aluminum powder to a coating composition of Okada et al in view of Persson et al in view of Gaglani depending upon intended application since Mizutani et al teach that depending upon intended application, a primer coating composition may contain (electrically conductive) carbon black, iron oxide, metal powders such as aluminum powder.

Response to Arguments

6. Applicant's arguments with respect to claims 1-6, and 9 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elena Tsoy whose telephone number is 571-272-1429. The examiner can normally be reached on Monday-Thursday, 9:00AM - 7:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on 571-272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Elena Tsoy
Primary Examiner
Art Unit 1762

ELENA TSOY
PRIMARY EXAMINER
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November 16, 2005